

Notice of Allowability

Application No.

10/775,582

Examiner

Thong Q. Le

Applicant(s)

FULKERSON ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/08/2004.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 10 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Thong Q. Le
Primary Examiner
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DETAILED ACTION

1. Claims 1-6 are presented for examination.

Information Disclosure Statement

2. This office acknowledges receipt of the following items from the Applicant:
Information Disclosure Statement (IDS) filed on July 08, 2004.
3. Information disclosed and list on PTO 1449 was considered.

Reasons for Allowance

4. Claims 1-6 are allowed.

The following is an examiner's statement of reasons for allowance:

Claims 1-6 include allowable subject matter since the prior art made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Black et al. (U.S. Patent No. 6,343,032), Black et al. (U.S. Patent No. 6,317,359) and others, does not teach the claimed invention having a latching circuit that senses and latched the magnetic states of a first bit line and second bit line in a MRAM comprises a fourth switch having a first switching terminal, a second switching terminal and a control terminal, wherein: the first switching terminal of the fourth switch is coupled to a second portion of the first bit line; the second switching terminal of the fourth switch is coupled to the second switching terminal of the second switch, to the control terminal of the first switch, to the control terminal of the third switch, to the second terminal of the reset circuit, and to the second output; and the control terminal of the fourth switch is coupled to the control terminal of the second

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switch, to the third terminal of the reset circuit, to the second switching terminal of the first switch, to the second switching terminal of the third switch, and to the first output as claim 1 discloses, and a method of reading a (MRAM) comprising temporarily resetting an interface circuit coupled to both the first bit line and to the second bit line such that an output of the interface circuit is reset to a balanced state as claims 2-4 disclose, and a method of latching a (MRAM) cell, having in a reset state, disabling cross-coupled feedback of an interface circuit coupled to a first bit line and to a second bit line, where disabling the cross-coupled feedback balances the interface circuit to current applied through first and second portions of the first bit line and through first and second portions of the second bit line, where the current applied to the first bit line and the current applied through the second bit line are substantially equal, where the first bit line corresponds to the MRAM cell as claims 5-6 disclose.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Le whose telephone number is 571-272-1783. The examiner can normally be reached on 8:00am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Le
Primary Examiner
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**THONG LEI
PRIMARY EXAMINER**